

TWO NEW GENERA OF SOUTH AMERICAN ELMIDAE
(COLEOPTERA)

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ABSTRACT

Tyletelmis mila, a new genus and species, is described from Brazil and French Guiana. A new genus, *Tolmerelmis*, is erected to contain *Heterelmis pubipes* Hinton of Brazil and Argentina.

INTRODUCTION

On a collecting expedition to South America in 1937 I obtained a large series of a small and very distinctive elmid belonging to a new genus and species, *Tyletelmis mila*, that is widely distributed in the Amazon basin and also occurs in French Guiana. In this paper a new genus, *Tolmerelmis*, is erected for *Heterelmis pubipes* Hinton (1936). The type locality of *T. pubipes* is Brazil: Santa Catharina. I have recently seen 12 specimens of this species taken by M. J. Viana in Argentina: Misiones, Santa Maria.

Tyletelmis Hinton, NEW GENUS

Body subparallel. Antennae (Fig. 1) 11-segmented. Maxillary palpi (Fig. 3) 4-segmented. Pronotum with a well-developed sublateral carina (Fig. 7, A) on each side extending from base to about apical sixth; disk more or less evenly convex, without depressions; lateral edge of pronotum when seen from side double. Elytron with a single, very well-developed sublateral carina that extends from humerus to about apical fifth; carina (Fig. 7, C) sharp-edged, not consisting of a row of granules. Prosternum short, with side in front of coxa scarcely longer than width of front of coxa; process between coxae broad; carinae prominent and extending nearly to anterior margin. Abdomen with distinct sublateral carinae on disk of first sternite (Fig. 7, D). Legs with a single cleaning fringe on front and hind tibiae and with 2 fringes on middle tibiae; claws slender, not toothed. Plastron of scale-like setae (Fig. 7, E) present on the following areas: head below and behind eyes; epipleura; sides of prosternum; sides of meso- and metasternum; all of sides of abdomen; and legs except for trochanters and tarsi.

GENOTYPE: *Tyletelmis mila* Hinton, new species.

COMPARATIVE NOTES: *Tyletelmis* bears a resemblance, but only a superficial one, to some species of *Limnius* and *Austrolimnius*, but it is not closely related to any other known genus.

Tyletelmis mila Hinton, NEW SPECIES

(Fig. 1-7)

Male. Length, 1.2mm; breadth, 0.6mm. Cuticle reddish brown with antennae and legs paler. Dorsal surface everywhere with fine, recumbent setae that are about as long as first antennal segment. *Head* with eyes large, major axis with 11-12 facets. Antenna (Fig. 1) relatively short, only extending to about middle of pronotum. Front between eyes with a fine, reticulate microsculpture and with shallow punctures about two-thirds

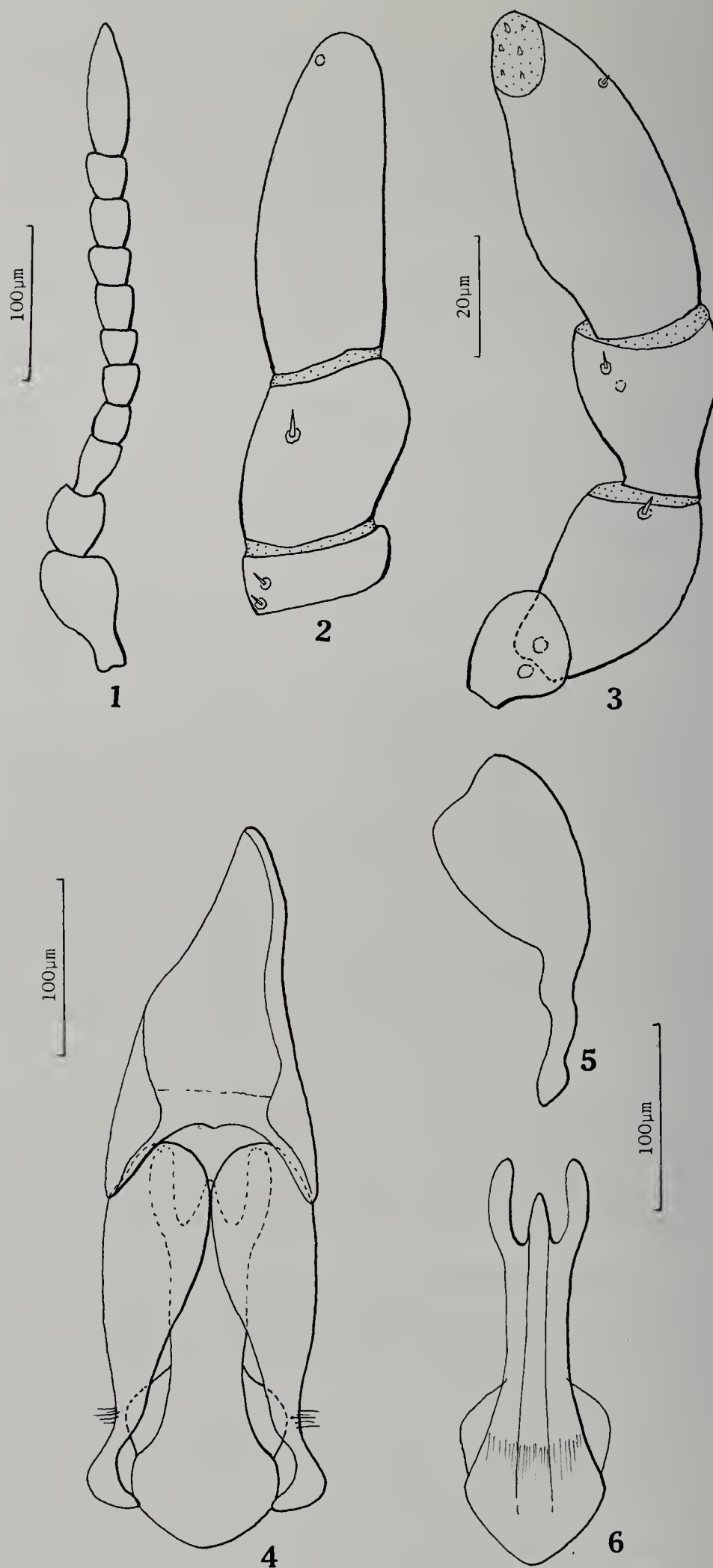


Fig. 1-3: *Tyletelmis mila*, sp. n. 1) antenna; 2) labial palp; 3) maxillary palp.

Fig. 4-6: *Tyletelmis mila*, sp. n. 4) dorsal view of male genitalia; 5) inner view of a paramere; 6) dorsal view of median lobe.

as coarse as facets of eyes and usually separated by 2 to 3 diameters. Clypeus with anterior margin shallowly and broadly, arcuately emarginate; labrum with anterior margin also arcuately emarginate but more deeply so. *Pronotum* with broadest point, which is at about middle, broader than long (0.57mm : 0.40mm) and base broader than apex (0.53mm : 0.42mm). Lateral margin with double edge; when seen from side about as thick as apex of second antennal segment except near apex where it is distinctly narrower; double edge not as distinct as in, for instance, most species of *Neoelmis*. Basal angles strongly produced behind (Fig. 7, A). Disk (Fig. 7, A, B) with surface sculptured like front of head but towards base with reticulate microsculpture much less evident or absent and punctures slightly coarser and more distinct. *Hypomera* everywhere with a reticulate microsculpture. *Elytra* with base slightly narrower than pronotum; distinctly widened behind to broadest point (at about apical two-fifths). Striae often scarcely impressed even on basal discal region; strial punctures on basal discal region shallow, round, only about a third as broad as intervals, and separated longitudinally usually by 2 to 3 diameters; in many specimens the striae are more distinctly impressed and the strial punctures slightly coarser. Intervals flat; surface with punctures often nearly as coarse as strial punctures, and, when this is so, punctures of the intervals are not easily distinguished from strial punctures when striae are scarcely impressed. From some angles of view, such specimens do not appear to have striate-punctate elytra. Scutellum large, flat, triangular. *Prosternum* with plastron on a belt along lateral margin that is anteriorly widened to extend to carinae. Carinae widely diverging anteriorly and extending almost to apical margin. *Metasternum* (Fig. 7, D) with disk almost flat. Lateral discal carinae well-developed. Median longitudinal line shallow and narrow. *Abdomen* with sublateral carinae of disk of first sternite not extending to posterior margin in some specimens; in others very nearly reaching posterior margin of disk. Plastron absent on discs of all 5 sternites.

Female: Externally similar to male.

Holotype Male: BRAZIL: Mato Grosso, Porto Velho, viii-ix-1937, H. E. Hinton [my collection].

Paratypes: 185 with same data as holotype; 7, Amazonas, Manaus, ix-1937, H. E. Hinton; 4, Pará, Belem, ix-1937 H. E. Hinton; and 1, French Guiana, St. Laurent, x-1937 H. E. Hinton. Paratypes have been deposited in the collections of the British Museum (Nat. Hist.), U.S. National Museum, Chicago Natural History Museum, and in the Museu de Zoologia, Universidad de Sao Paulo.

Most of the paratypes are very dark brown, and some are almost black. These were preserved in Pampel's fluid from 1937 to 1971. During this time the fluid had dried on several occasions, and the tubes had been re-filled. The darker colour of the cuticle of the fluid-preserved specimens is due to this alternate drying and wetting.

Tolmerelmis Hinton, NEW GENUS

Body obvate. Antenna 11-segmented. Maxillary palpi 4-segmented.

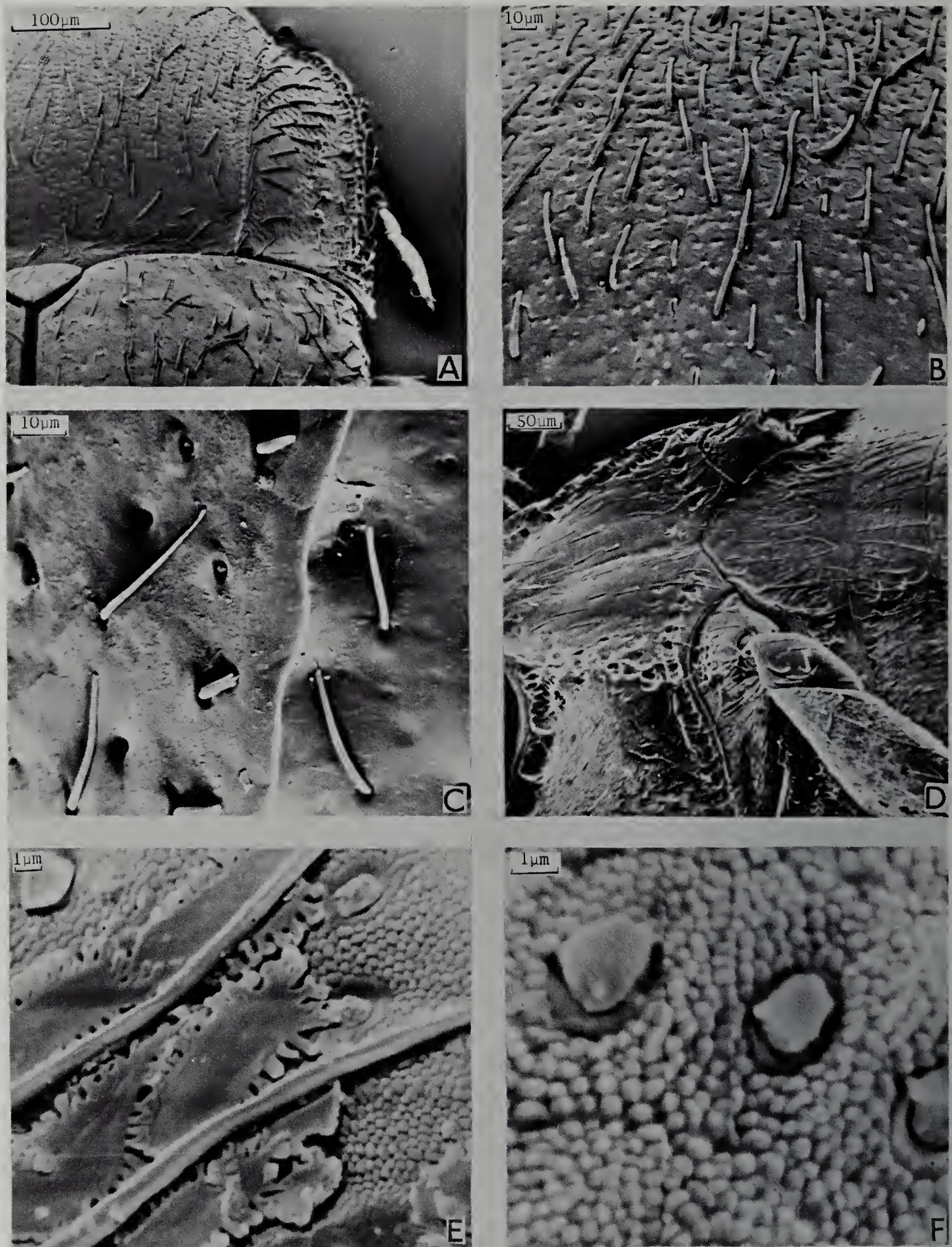


Fig. 7: Scanning electron micrographs of *Tyletelmis mila*, sp. n. A) pronotum; B) disk of pronotum (the reticulate microsculpture between the punctures has been obscured by the deposit of gold-palladium alloy on the specimen); C) sublateral carina on apical one-third of elytra; D) metasternal disk and discs of first 2 abdominal sternites; E) plastron of second abdominal sternite near middle (2 setae of the macroplastron are also shown as well as the granules below the scale-like plastron); F) epipleura showing granules below scale-like plastron.

Pronotum with sublateral carinae well-developed, broad with inner edge sharp, and extending from base to about apical fifth; lateral edge when seen from side not double; disk with a broad, deep, median longitudinal depression extending from base very nearly to apex; with an indistinct and shallow, scarcely noticeable, transverse depression on basal two-fifths. Elytron with 2 well-developed, granulate, sublateral carinae; at base with 1 row of striae between carinae but toward apex with 2 rows between so that outer carina appears to be on seventh interval on basal region and eighth interval on apical region; outer sublateral carina extending to a point opposite posterior margin of second abdominal sternite and inner carina extending to a point opposite middle of fifth sternite; striae with second confined to basal third and third to basal half. Prosternum long, at sides much longer than width of front coxae; process broad between coxae; sublateral carinae well-developed and extending almost to apical margin. Abdomen with sublateral carinae on disk of first sternite. Legs with 2 cleaning fringes on front and middle tibiae and with only 1 cleaning fringe on hind tibiae; posterior cleaning fringe of front tibiae and anterior cleaning fringe of middle tibiae very short; posterior cleaning fringe of middle tibiae exceptionally long (Hinton 1936: Fig. 4). Plastron of microtrichia confined to the side of mesosternum and anterior lower side of metasternum and metasternal episternum.

GENOTYPE: *Heterelmis pubipes* Hinton (1936).

The hypomera, epipleura, sides of prosternum, much of sides of metasternum, and sides of first 3 abdominal sternites have a strong metallic lustre. The surface of the cuticle of these areas has dense granules less than 0.5 μm wide. These granules may be a kind of plastron, but experiments with live specimens are required to show if they hold a film of air against a pressure difference. This type of plastron is, for instance, present on the spiracular gills of the tipulid fly, *Orimagula hintoni* Alex. (Hinton 1968, Fig. 9). The granules are similar to those illustrated here for *Tyletelmis* (Fig. 7, E, F). There is also a very distinct metallic lustre on the pronotum, and here too the surface has similar granules.

COMPARATIVE NOTES: *T. pubipes* was originally placed in the genus *Heterelmis* Sharp (Hinton 1936), but this was done years before the significance of the plastron was known. In *Heterelmis* the disk of the pronotum may be evenly convex or, more usually, have a distinct transverse depression, but it never has a broad median longitudinal depression. In *Heterelmis* a hair-like plastron is present on the head below and behind the eyes, the lower sides of the hypomera, the epipleura, the sides of the pro-, meso-, and metasternum, the sides of all abdominal sternites, and the femora and sometimes also the trochanters.

REFERENCES

- HINTON, H. E. 1936. Descriptions and figures of new Brazilian Dryopidae (Coleoptera). *Entomologist* 69: 283-289.
- HINTON, H. E. 1968. Spiracular gills. *Adv. Insect Physiol.* 5: 65-162.